AMERICAN INTELLIGENCE.

DOMESTIC SUMMARY.

Injury of the Arm common to Children of from one to four years of age.—[Dr. R. M. Hodges relates (*Boston Med. and Surg. Journ.*, Sept. 18th, 1862) three cases of an accident often observed in children, and the exact nature of which has probably frequently puzzled the practitioner, in consequence of the impossibility of persuading the little patient to submit to a careful examination, and the suddenness with which the symptoms often disappear.]

Feb. 2, 1862. A nurse, holding the hand of a little girl twenty-eight months old, in a moment of impatience gave it a sudden twitch. The child immediately cried out, would not allow herself to be touched, and held her arm motionless. Her mother, however, placed it in a sling, and three hours after the accident the limb was found in the following condition, viz., bent at an obtuse angle and resting against the body, the forearm much pronated. There was no apparent swelling or deformity, but the slightest motion was extremely painful, and the little patient was unable or unwilling to hold anything in her hand. On manipulating the limb there seemed to be some impediment in its natural movements, and in attempts to produce certain of these a feeling suggesting crepitus was detected, but before either the seat of this, or the actual diminution of mobility could be determined by examination, the abnormal condition of things vanished, the child ceased to cry, took her playthings in her hand, and the limb was evidently once more in its natural condition.

Feb. 7, 1862. A little girl, thirty months old, fell whilst walking across the parlour floor, her mother holding her by the hand. When seen, her limb presented a condition precisely analogous to that described in the preceding case—there was the same pronated and semi-flexed position, the child was unwilling to use it, and cried the moment it was touched. Before I could ascertain what the exact injury was, manipulation had produced the obscure crepitus, or something which seemed like it, the pain and immobility instantly disappeared, the child readily took its playthings, and with the exception of a little fright, was herself again.

These two cases occurred in the course of the same week, and were the first and only ones of the kind which had ever fallen under my observation. I had considered them both as instances of incomplete dislocation of the head of the radius forward. This accident, or, at all events, this phase of it, is not described in the common works on surgery, although a thesis in French, one or two articles in journals, and a description by two or three French writers may be found, in all of which it has been looked upon as some form of dislocation of the upper extremity of the radius. M. Goyrand, of Aix, however, who has written several articles on the subject, takes an entirely different view of the matter. In a paper recently presented to the Surgical Society of Paris (*L'Union Médicale*, Nov. 23, 1861), and which has fallen under my notice since the occurrence of the two cases above described, he sums up the symptoms of this accident so accurately that I venture to quote his description, believing that, in the absence of any readily accessible account of the injury, its recapitulation, with an abstract of some of his remarks, will not be altogether amiss.

A child, from one to three or four years of age, is saved from a threatened fall by being suddenly caught by the wrist, or it is lifted over a gutter, or made to step up by a violent pull of the pronated hand. At the moment of the strain, the person holding the hand notices a slight snap or shock. The child cries out and continues to complain; the limb hangs motionless by the side, a little in front, with the elbow partly bent and the hand pronated. Any attempt to supinate the hand increases the cries, the rotation outwards is brought up by a mechanical obstacle, and if this is not overcome, as soon as the hand is let go it returns to its pronated position. This symptom is pathognomonic. If the resistance is overcome, a snap is heard or a slight jar is felt, pain ceases, motion is restored, and no trace of the accident remains. If nothing is done by the surgeon, after a certain period which varies from a few hours to several days, the limb spontaneously resumes its natural condition, ordinarily during sleep. If any length of time elapses prior to the reduction, either by the surgeon or by the efforts of nature, the hand becomes adducted, and there appears on the dorsal surface of the wrist and the neighbouring parts of the forearm a painful swelling similar to that accompanying fractures, dislocations, or sprains.

M. Goyrand had always considered the lesion in these cases as a partial dislocation of the radius at the elbow, but so slight as to give no appreciable deformity of the articulation. In 1857, a case occurred which revealed to him what he now conceives to be the true nature of the injury, viz., a displacement of the inter-articular fibro-cartilage of the wrist in front of the carpal extremity of the ulna. In complete pronation, the inferior articulating surface of the head of the ulna is exposed behind the corresponding border of the fibro-cartilage by more than three-quarters the thickness of the bone, and hence, in a forced rotation of the radius in the direction of pronation, it is conceivable that the fibro-cartilage may easily be carried in front of the head of the ulna. This displacement occurs only in childhood, as it can only be produced by great violence; in adults, forced pronation is prevented by antagonistic muscles brought into action as soon as pronation becomes painful. This cannot be done by a child. The varying size of the head of the ulna explains why some children, exposed to a cause capable of producing this displacement of the fibro-cartilage, escape the accident.

The following cases are submitted in justification of this diagnosis, and as illustrating the symptoms developed by the accident.

Obs. I. Mary J., one year old, just beginning to walk. July 6, 1861, whilst walking, being held by the right hand, her brother, seven or eight years old, fell heavily against her. The nurse, squeezing its hand, pulled the child quickly towards her, and in doing so felt something "give way" in the little arm. The child immediately began to cry; the limb was held motionless, resting against the body, carried a little in front, and with the forearm pronated. No deformity about the wrist or elbow. Motion or pressure about the elbow causes no pain, but pressure on the back of the wrist makes the child cry out. On supinating the hand, the movement was felt to bring up against some resistance, the child cried louder, and the hand when released assumed its previous pronated position.

The arm being held by the mother, M. Goyrand seized the hand in his right, with the thumb on the lower end of the radius and the forefinger on the head of the ulna; with his left hand he gently supinated that of the child. Before supination was completely effected, the finger resting on the end of the ulna felt a slight shock; instantly the resistance to supination was overcome and reduction accomplished.

Two minutes afterwards the child took in its injured hand a bracelet held out to it by its mother. The mobility was completely regained, and all uneasiness and pain gone.

Obs. II. Margaret D., thirty-five months old, held by the left hand, made a false step, and from the sudden jerk which the hand in a state of pronation received there resulted the injury which M. Goyrand makes the subject of his paper. One of his pupils, a physician in the town where the child's parents reside, being called to the case immediately on its occurrence, recognized the injury and supposed that he had reduced it. The symptoms of the displacement did not, however, disappear, for on the following day the limb was immovable and in a pronated position. M. Goyrand saw the child fifty hours after the accident and noted the following symptoms, viz., those which are mentioned in the previous observation, and in addition, on the dorsal surface of the wrist, a swelling extending to the neighbouring parts of the forearm and hand; this was extremely tender to the touch, especially at a point corresponding to the articular interspace of the wrist. There was a slight inclination of the hand to the ulnar side of the limb. In reducing the displacement, the finger which rested on the carpal extremity of the ulna felt, distinctly, when the hand was brought into supination, a crepitus precisely like that in a case of fracture. Before supination was completely produced the sensation ceased, opposition to supination was overcome, and the reduction was accomplished. Thirty-six hours afterwards no traces of the accident remained.

In both these children the displacement happened again in the same arm. In other cases which have been noticed, the two limbs have been successively the subject of the accident, one after the other.

In the discussion which ensued upon the presentation of this paper, it appears that MM. Guersent, Marjolin, Giraldes, and Velpeau were at a loss to accept M. Goyrand's explanation. M. Guersent believed that the cases in question comprised a variety of lesions with certain identical symptoms. M. Marjolin thought that in many of these cases he had seen a deformity about the elbow. MM. Giraldes and Velpeau thought that a dislocation of the fibro-cartilage could not take place without a lesion of the serous membrane of the articular cavity, after which consecutive symptoms should be developed, no matter how simple the reduction might be. Are we then to accept this explanation of the phenomena presented by this injury?

Although M. Goyrand fortifies his opinion by the results of experiments on the dead subject, he admits that the fibro-cartilage will not remain displaced unless the hand is held up and in forced supination. In two attempts which I have made upon very young subjects, I have not been able to produce this dislocation, nor when the joint was opened have I been able to force the fibro-cartilage into the position which M. Goyrand assumes that it takes, without tearing it from its attachments. Any one who will examine for himself the very limited range of displacement of which this cartilage is capable, except by the use of violence which must determine more marked symptoms than ever follow this accident, will be convinced of the error of M. Goyrand's views. Although no two writers agree upon the precise nature of the injury. all of them, with the exception of M. Goyrand, locate it at the elbow. This diversity of opinion is accounted for by the fact, that before its seat can well be ascertained the symptoms disappear with the very first exploratory manipulations. It would seem, from the weight of testimony and from my own experience, that without attempting to account for this somewhat peculiar, and, as I judge, not unfrequent accident, by any ingenious theory or complicated displacement, a satisfactory explanation of its pathology is to be found in the partial luxation of the head of the radius, which, either in one direction or another, is accepted as its rationale by Duverney, Bouley, Monteggia, Martin, and Fougeu d'Etampes. This view finds support in the position assumed by the arm, and the manner in which the symptoms of the injury disappear. Rotation and flexion (which, of course, if carried through the whole range, implies extension) are the first motions which every surgeon gives to an arm when he examines it for a suspected fracture or dislocation; and in a child, where this bone was but partially out of place, might well be adequate to the reduction, even when practised gently and but a single time. An adult would perhaps unwittingly or of his own accord reduce a dislocation of this slight degree, when in a child. from pain and fear, it might remain persistent till surgical aid arrives. In the absence of this, we are told that in the course of time spontaneous cure is effected. Would this occur if there were so serious a displacement as that of the interarticular fibro-cartilage of the wrist? It appears then that the following opinions present themselves:—

1st. That of M. Guersent, who conceives that the cases in question comprise a variety of lesions with certain identical symptoms. 2d. That of a number of writers, who attribute the symptoms to a partial dislocation of the head of the radius in one direction or another. 3d. That of M. Goyrand, which has been detailed at length.

The cases present too striking a similarity to admit of the acceptance of the first of these, and of the third we have already given our opinion.

The second, therefore, seems to merit the most favourable verdict, and the latitude which it permits is, in the present state of our knowledge, no more perhaps than it is discretionary to allow.

Since writing the above, a third case has fallen under my notice. A child ten months old was brought to the dispensary, June 24th, 1862, with her hand in a sling, having received an injury to the elbow the afternoon previous, by being lifted up with a jerk by the wrists whilst lying on its back, in which position its grandmother had been putting on a diaper. The symptoms of injury, to wit, crying and inability to use the arm, ensued at once. On examination the following morning, the characteristic position, semiflexion and pronation, and pain on motion, with the absence of deformity or swelling, led me to suspect the nature of the accident, and I was able to satisfy myself that the seat of injury was not at the wrist. The opposition to rotation was evidently at the elbow, and a single sensation of crepitus was felt at this point, but on manipulating to detect, if possible, the condition of the parts, the resistance to supination was unexpectedly overcome and the normal state of things assumed, before I had ascertained what the precise derangement was which stood in the way of free motion. The experience of this case confirms me in my opinion of the erroneousness of M. Goyrand's views, at least in their general application.

Acute Chorea Treated with Whiskey.—Dr. Clark related to the New York Medical and Surgical Society a case of acute chorea which was interesting from the illustration it afforded of the good effects of what he believed to be an entirely novel treatment in that disease. A girl, sixteen years of age, was admitted recently to Bellevue Hospital suffering from an aggravated form of chorea of four weeks' duration. The convulsive movements were so violent and incessant that she had not slept for four or five nights previous to the admission. Dr. Clark having observed the sedative effects of whiskey administered in intoxicating doses in some cases of idiopathic tetanus, determined to try the same remedy in this case. He directed that half an ounce of whiskey should be given to the patient every half hour until intoxication was produced if necessary and sleep followed. After the third dose the girl slept half an hour, after the fourth dose she slept three hours, and from this time she slept well with doses repeated at longer intervals, and subsequently with the use of tonics has improved rapidly. There were no symptoms of heart disease in this case, and there had been no previous rheumatism of the joints.—*Am. Med. Times*, Aug. 2, 1862.

The Liver in Cholera Infantum.—Dr. J. Lewis Smith, Curator of the Nursery and Child's Hospital, has published (*American Medical Times*, Sept. 20th, 1862) some interesting investigations which confirm the prevalent belief that the liver plays an insignificant part in the pathology of the summer complaint of children. "The green stools," he justly remarks, "which have long been referred to the biliary secretion, must be mainly due to causes operating in the intestines, for I have repeatedly noticed that the green colour does not appear till we reach the lower part of the jejunum, or upper part of the ileum. Examined under the microscope the green matter is found to be in little fragments or masses, as if produced in the crypts of the intestines."

Dr. S. gives the result of the post-mortem appearance of the liver in thirty-seven cases. No evidence is afforded by these of any congestion, or torpidity, or hyperactivity, or perverted secretion, or abnormal size of the liver. "In most of the cases the liver was examined microscopically, and the only fact worthy of note observed was the variable amount of fatty matter. Sometimes it was in excess, sometimes in moderate quantity, or rather deficient, and sometimes, apparently, in greater amount in one portion of the organ than in others."

Oakum as a Substitute for Lint, in Gun-shot and other Suppurating Wounds.—Dr. Lewis A. Sayre recommends (*Am. Med. Times*, Aug. 9, 1862) picked oakum as a substitute for lint, in all cases of suppurating wounds, particularly in connection with opened joints, where the suppuration is excessive. The oakum, he says, is more of an absorbent than lint, and therefore fulfils one of the objects of dressing better, and another advantage is its cheapness.

"It is necessary," he says, "to place under the wound a piece of India-rubber cloth, or oiled muslin, for the sake of cleanliness; and in case of much inflammation, by simply wetting the oakum in cold water, and wrapping the oiled muslin around the limb, or wounded part, so as to exclude the air, you have at once the neatest and most comfortable poultice that can be applied to it. In gun-shot wounds, which go through and through a limb, particularly if made with the 'Minié ball,' the whirl or screw of the ball entangles in its thread the muscular fibres and cellular tissue, and separates them from their attachments for a long distance from the real track of the ball itself.

"As the muscle and tegumentary tissues are more freely supplied with bloodvessels than the fat and cellular tissue, the consequence is that they begin to granulate much more readily than those other tissues, and will thus often close up the wound, and prevent the free escape of pus, before those parts have perfectly healed, and thus lead to the formation of extensive secondary abscesses. I, therefore, in all cases where no bloodvessels prevent it, pass an eyed probe through the wound and draw through it a few fibres of the oakum or tarred rope, which keeps it perfectly free, and the tar is a very excellent antiseptic, and removes all unpleasant odour.

"A few fresh fibres are twisted on the end of the seton at every dressing and drawn into the wound, and the soiled piece cut off and removed with the dressings."

Experiments on the Formation of Infusoria in Boiled Solutions of Organic Matter, enclosed in Hermetically Sealed Vessels, and supplied with Pure Air.—Dr. JEFFRIES WYMAN relates (*American Journal of Science*, July, 1862) some very ingenious and interesting experiments to elucidate this subject.

Pasteur, in his admirable researches on fermentation, has brought forward experimental evidence to show that this process depends upon the presence of minute organisms in the fermenting fluid, and that the source of all such organisms is the atmosphere. In support of this opinion he asserts, that when a fluid containing organic matter in solution is put into a flask, and "boiled two or three minutes," and supplied only with air which has been filtered by passing through a tube heated to redness, and the flask is then hermetically sealed, no fermentation takes place, no organisms are formed, and that the contents remain indefinitely without change. But if the same solution is exposed to the air in its ordinary condition, it becomes filled with various living forms. Out of a large number of experiments prepared in the manner above described he has not known one to give a different result from that mentioned. He further states that if the neck of the flask is drawn out into a very slender curved tube of several inches in length, the contents boiled, and then allowed to cool without the end of the tube being closed, so that the air enters at the ordinary temperature, and has free access to the interior of the flask, even then no fermentation takes place and no organisms appear. His explanation of this is, that the air which enters first, meets with the hot steam, and the spores or organisms contained in it are killed; while those which enter the tube later move more slowly, and are deposited on the moist walls of it without entering the body of the flask.

The results of Dr. Wyman's experiments have been quite different, and living organisms have made their appearance, in some instances, where even greater precautions were taken than those mentioned by Pasteur. "The boiled solutions of organic matter made use of," by Dr. W., "exposed only to air in hermetically sealed vessels, and exposed to boiling water, became the seat of infusorial life.

These experiments, Dr. W. observes, "throw but little light on the immediate source from which the organisms in question have been derived. Those who reject the doctrine of spontaneous generation in any of the forms in which it has been brought forward, will ascribe them to spores contained either in the air enclosed in the flask, or in the materials of the solution. In support of this view it may be asserted, that it has been proved by the microscopical investigations of Quatrefages, Robin, Pouchet, Pasteur, and others, that the air contains various kinds of organic matter, consisting of minute fragments of dead animals and plants, also the spores of cryptogamous plants, and certain other forms, the appearance of which, as Quatrefages says, suggests that they are eggs. We have made some examinations of our own on this subject, but it would be unnecessary to give the results in detail. We will simply state, that we have carefully examined the dust deposited in attics, also that floating in the air collected on plates of glass covered with glycerine, and have found in such dust, in addition to the debris of animal and vegetable tissues, which last were by far in the greatest abundance, the spores of Cryptogams, some closely resembling those of Confervoid plants, and with them, but much less frequently, what appeared to be the eggs of some of the invertebrate animals, though we were unable to identify them with those of any particular species. We have also found grains of starch in both kinds of dust examined, to the presence of which Pouchet was the first to call attention. When compared with the whole quantity of dust examined, or even with the whole quantity of organic matter, both eggs and spores may be said to be of rare occurrence. We have not in any instance detected dried animalcules which were resuscitated by moisture, and when the dust has been macerated in water, none have appeared until several days afterwards, until after a lapse of time, when they would ordinarily appear in any organic solution.

"Those who advocate the theory of spontaneous generation, on the other hand, will doubtless find, in the experiments here recorded, evidence in support of their views. While they admit that spores and minute eggs are disseminated through the air, they assert that no spores or eggs of any kind have been actually proved by experiment to resist the prolonged action of boiling water. As regards Vibrios, Bacteriums, Spirillums, etc., it has not yet been shown that they have spores; the existence of them is simply inferred from analogy. It is certain that Vibrios are killed by being immersed in water, the temperature of which does not exceed 200° F. We have found all motion, except the Brownian, to cease even at 180° F. We have also proved by several experiments that the spores of common mould are killed, both by being exposed to steam, and by passing through the heated tube used in the experiments described in this article. If, on the one hand, it is urged that all organisms, in so far as the early history of them is known, are derived from ova, and therefore from analogy, we must ascribe a similar origin to these minute beings whose early history we do not know, it may be urged with equal force, on the other hand, that all ova and spores, in so far as we know anything about them, are destroyed by prolonged boiling: therefore, from analogy we are equally bound to infer that Vibrios, Bacteriums, &c., could not have been derived from ova, since these would all have been destroyed by the conditions to which they have been subjected. The argument from analogy is as strong in the one case as in the other."

Singular Case of Hernia.—Prof. PARKER related the following singular case of hernia to the New York Medical and Surgical Society (December 31, 1861).

A young man, enjoying vigorous health, complained for the first time of severe abdominal pain around the umbilicus and in the right groin, and some sickness of the stomach, on Monday morning. This not yielding to ordinary remedies, a physician was called, who regarded it as a case of colic, and treated it accordingly. The pain, constipation, and nausea continuing, Dr. Parker was called in consultation on Thursday. He found the patient with a rapid feeble pulse, cool surface, a somewhat tumid abdomen, with tenderness in the right hypogastrium, pain, singultus, and nausea with vomiting. On closer examination, an oblong tumour, soft and doughy to the feel, and somewhat discoloured, was found extending from the external abdominal ring upwards and outwards on the right side three and a half inches towards the anterior superior spinous process of the ileum. An examination of the scrotum showed that the testicles had never descended into their vaginal sacs. It was at once decided to cut down upon the tumour. The incision was made along the long axis of the tumour. Cutting through the integument and the common fascia, the tendon of the external oblique was divided, and the sac exposed as well as the right testis. The sac was reversed and extended towards the anterior superior spinous process. About ten inches of the ileum had escaped. It was very dark. The finger was passed in towards the internal ring, which was unusually deep, and the stricture torn with the finger. The gut brightened immediately, and was reduced without difficulty. The patient has probably done well, Dr. P. having heard nothing since the operation, three weeks ago.—*Am. Med. Times*, Sept. 13, 1862.